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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/057,206	01/25/2002	Robert J. Small	M-12178 US	1702
36257	7590	09/29/2004	EXAMINER	
PARSONS HSUE & DE RUNTZ LLP 655 MONTGOMERY STREET SUITE 1800 SAN FRANCISCO, CA 94111			MARCHESCHI, MICHAEL A	
			ART UNIT	PAPER NUMBER
			1755	

DATE MAILED: 09/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/057,206

Applicant(s)

SMALL ET AL.

Examiner

Michael A Marcheschi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 6/16/04.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 77-109 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 77-109 is/are rejected.
- 7) ☒ Claim(s) 90,91,106 and 109 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 6/16/04 has been entered.

Claims 77-109 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The new matter is the limitations “pH 1 to less than pH 2” and “above pH 5”, as defined in the independent claims because the original specification never literally defines these limitations before. See section [0011] of the instant specification.

Claims 77-109 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 77 and 94 are indefinite as to the phrase “said composition having a pH selected from a group consisting of a pH from about pH 1 to less than pH 2 and a pH from above pH 5 to about pH 10” because this phrase is not defined in a clear and concise manner. The phrase does

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not clearly define the pH ranges and therefore should be rewritten (i.e. wherein said composition has a pH of 1 to less than pH 2 or a pH of above 5 to about 10).

Claims 89 and 105 are indefinite as to the limitation “carbide” because the examiner is unclear as to what the carbide is (i.e. carbide of what metal).

The other claims are indefinite because they depend on indefinite claims.

Claims 91 and 109 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The limitation of these claims does not further define the polishing composition in terms of its components and/or characteristics, thus not further limiting the composition.

Claims 90, 91 and 106 are objected to because of the following informalities:

The claims are objected to as to the multiple dependent language. Although this language is understood to be defining the dependency in alternative language, it is strongly suggested that the claims be amended to set forth the language “any one of claims...” so as to clearly define the claim dependencies in alternative form.

Appropriate correction is required.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 77-109 are rejected under 35 U.S.C. 103(a) as obvious over either (1) Shemo et al. (831), (2) Shemo et al. (774) , (3) Fang (227) , (4) Streinz et al. (686), or (5) Kaufman et al. (306).

Shemo et al. (831) teach in the abstract, column 4, line 44-column 7, line 25 and the claims, a polishing composition, having the claimed pH, which comprises an abrasive and periodic acid. Various other components can be used (i.e. a pH adjustor, a surfactant and organic acid, etc.). The amounts for the abrasive and periodic acid are defined.

Shemo et al. (774) teach in the abstract, column 4, line 50-column 7, line 35 and the claims, a polishing composition, having the claimed pH, which comprises an abrasive and periodic acid. Various other components can be used (i.e. a pH adjustor, a surfactant and organic acid, etc.). The amounts for the abrasive and periodic acid are defined.

Fang teaches in column 2, line 17-column 5, line 65 and the claims, a polishing composition, having the claimed pH, which comprises an abrasive and periodic acid. Various other components can be used (i.e. a pH adjustor, a surfactant and organic acid, etc.). The amounts for the abrasive and periodic acid are defined.

Streinz et al. (686) teach in column 3, line 58-column 7, line 68 and the claims, a polishing composition, having the claimed pH (1 to about 5), which comprises an abrasive and

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periodic acid. Various other components can be used (i.e. a pH adjustor, a surfactant and organic acid, etc.). The amounts for the abrasive and periodic acid are defined.

Kaufman et al. (306) teach in column 5, line 16-column 7, line 22, column 9, lines 25-35 and the claims, a polishing composition, having the claimed pH, which comprises an abrasive and periodic acid. Various other components can be used (i.e. a pH adjustor, a surfactant and organic acid, etc.). The amounts for the abrasive and periodic acid are defined.

The references teach amounts for the periodic acid and it is the examiners position that when said amounts are calculated in terms of moles/kg, said amounts will encompasses the claimed amounts. If applicants wish to argue the claimed amounts, burden is upon applicants to show the contrary to the above statement (i.e. show that the reference ranges are not within the range of the claimed amounts). The references define amounts for the components and it is the examiners position that the combined amounts defined by the references will render a substrate substantially planar, thus making this limitation obvious. In view of this, no patentable distinction is seen to exist between the reference compositions and the claimed composition in the absence of any evidence showing the contrary. With respect to the characteristics (claims 92, 93, etc.), since the compositions are the same, these characteristics are expected and therefore obvious because the same polishing composition is expected to provide the same polishing characteristics to a substrate upon polishing. **Although these references are not directed to polishing a noble metal, this is the intended use of the claimed composition which provides no patentable weight to a composition claim.** Finally, applicants are reminded that “about” permits some tolerance. In other words, in the case of Shemo et al. (831), the claimed limitation of “about 6” reads on the pH of the reference.

Claims 77-84, 86-100 and 102-109 are rejected under 35 U.S.C. 103(a) as obvious over Tredinnick (460).

Tredinnick teaches in sections [0019]-[0040] and the claims and the claims, a polishing composition, having the claimed pH (see section [0037], which comprises an abrasive and periodic acid. Various other components can be used (i.e. a pH adjustor and another abrasive). The amounts for the abrasive and periodic acid are defined.

The reference teaches amounts for the periodic acid and it is the examiners position that when said amounts are calculated in terms of moles/kg, said amounts will encompasses the claimed amounts. If applicants wish to argue the claimed amounts, burden is upon applicants to show the contrary to the above statement (i.e. show that the reference ranges are not within the range of the claimed amounts). The reference defines amounts for the components and it is the examiners position that the combined amounts defined by the references will render a substrate substantially planar, thus making this limitation obvious. In view of this, no patentable distinction is seen to exist between the reference composition and the claimed composition in the absence of any evidence showing the contrary. With respect to the characteristics (claims 92, 93, etc.), since the composition is the same, these characteristics are expected and therefore obvious because the same polishing composition is expected to provide the same polishing characteristics to a substrate upon polishing. **Although this reference is not directed to polishing a noble metal, this is the intended use of the claimed composition which provides no patentable weight to a composition claim.**

Claims 77-109 are rejected under 35 U.S.C. 103(a) as obvious over Brusic et al. alone or in view of Fang (227)

Brusic et al. teach in the abstract and column 3, line 36-column 6, line 45, a polishing composition, having the claimed pH, which comprises an abrasive and periodic acid. Various other components can be used (i.e. an organic acid, etc.). The amounts for the abrasive and periodic acid are defined.

The primary reference teaches amounts for the periodic acid and it is the examiners position that when said amounts are calculated in terms of moles/kg, said amounts will encompass the claimed amounts. If applicants wish to argue the claimed amounts, burden is upon applicants to show the contrary to the above statement (i.e. show that the reference range is not within the range of the claimed amounts). This reference also defines amounts for the components and it is the examiners position that the combined amounts defined by the reference will render a substrate substantially planar, thus making this limitation obvious. In view of this, no patentable distinction is seen to exist between the reference composition and the claimed composition in the absence of any evidence showing the contrary. With respect to the characteristics (claims 92, 93, etc.), since the composition is the same, these characteristics are expected and therefore obvious because the same polishing composition is expected to provide the same polishing characteristics to a substrate upon polishing. Finally, the primary reference teaches a pH of the composition and one skilled in the art would have found the adjustment of said pH obvious if the initial composition did not have the required pH and/or if a different pH was desired. This concept is clearly within the level of ordinary skill in the art and therefore the use of any pH adjusting material is also within the level of the skilled artisan. In the alternative,



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the primary reference teaches a pH of the composition and one skilled in the art would have found the adjustment of said pH obvious, which is clearly shown by Fang, in order to produce a polishing composition having a specific pH. In other words, the use of a pH adjustor is well within the level of ordinary skill in order to produce a composition having the desired pH.

Claims 77-109 are rejected under 35 U.S.C. 103(a) as obvious over Moeggenborg et al. in view of Fang (227) and Dirksen et al.

Moeggenborg et al. teach in the abstract and sections [0009]-[column 3, line 36-column 6, line 45, a polishing composition, having the claimed pH, which comprises an abrasive and periodic acid. It is shown that a combination of abrasives can be used thus reading on the claimed suspension agent (i.e. another abrasive). The amounts for the abrasive and periodic acid are defined.

Dirksen et al. teach in section [0008] and section [0020] that surfactants and organic acids are well known conventional additives to be added to noble metal polishing compositions.

The primary reference teaches amounts for the periodic acid and it is the examiners position that when said amounts are calculated in terms of moles/kg, said amounts will encompass the claimed amounts. If applicants wish to argue the claimed amounts, burden is upon applicants to show the contrary to the above statement (i.e. show that the reference range is not within the range of the claimed amounts). This reference also defines amounts for the components and it is the examiners position that the combined amounts defined by the reference will render a substrate substantially planar, thus making this limitation obvious. In view of this, no patentable distinction is seen to exist between the reference composition and the claimed

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composition in the absence of any evidence showing the contrary. With respect to the characteristics (claims 92, 93, etc.), since the composition is the same, these characteristics are expected and therefore obvious because the same polishing composition is expected to provide the same polishing characteristics to a substrate upon polishing. Although the primary reference does not literally define the pH, this does not preclude the material of the reference from having this characteristic. It is therefore the examiners position that since the reference fails to mention any specific pH (criticality), this (the absence of any such limitation) constitutes a broad teaching of pH values, as long as the final polishing composition is obtained. In view of this, it can be reasonably interpreted that the claimed pH is encompassed by the broad teachings according to this reference in the absence of any evidence showing the contrary (criticality). This is apparent because all polishing compositions have a pH. With the pH being obvious, one skilled in the art would have found the adjustment of said pH obvious, which is clearly shown by Fang, in order to produce a polishing composition having a specific pH. In other words, the use of a pH adjustor is well within the level of ordinary skill in order to produce a composition having the desired pH. Finally, it is the examiners position that use of conventional polishing additives, such as a surfactant and an organic acid, would have been well within the level of ordinary skill in the art. These conventional additives for noble metal polishing compositions are clearly shown by Dirksen et al.

Applicant's arguments filed 6/16/04 have been fully considered but they are not persuasive.

Applicants argue that Shemo et al. (831) teaches a pH outside the claimed range. As defined previously, the limitation “**above** pH 5” is new matter and therefore this argument is moot. Applicants can not amend the range to overcome the reference when said range is not literally disclosed. Applicants also appear to argue the intended use limitation (i.e. composition for polishing a substrate comprising the claimed features (i.e. the features defined by claims 91 and 109)” but as is well known, intended use provides no patentable weight to the composition. In view of this, the limitations of claims 91 and 109, which define the intended use of the composition (i.e. composition used to polish these features) does not provide patentable weight to the composition.

Applicants argue that the declaration of Zhefei J. Chen (and exhibits) establishes that the instant invention is prior to 12/17/1999 (reduced to practice prior to the reference filing dates) and therefore overcomes Shemo et al., Fang et al., Brusic et al. and Moeggenborg et al. This is not persuasive for the following reasons.

First, the declaration is **insufficient** to establish prior invention for the claimed subject matter (broad ranges of abrasive (no specific one defined in the independent claims) and periodic acid) because applicants have not shown proper diligence. The instant application was filed on 1/25/02 and applicants declaration states that the invention was conceived and reduced to practice before 12/17/99. However, a large time frame is apparent between the time that the invention was conceived and reduced to practice and the time that the invention was actually filed as an application. Applicants need to show reasonable diligence between the two time periods. See MPEP 2138.06. **“THE ENTIRE PERIOD DURING WHICH DILIGENCE IS REQUIRED MUST BE ACCOUNTED FOR BY EITHER AFFIRMATIVE ACTS OR**

**ACCEPTABLE ACTS**". In the absence of evidence showing diligence, the declaration is not persuasive.

Second, assuming arguendo about the declaration, contrary to applicants position, the declaration does **not** show reduction to practice of the **entire** ranges being claimed. As defined in independent claim 77, no amounts are defined for the abrasive. In dependent claim 80 and independent claim 94, a range of about 0.02 to about 6 wt. percent is defined for the abrasive content. The declaration, however, only defines one point for the abrasive content, that being 2 wt. % (the abrasive is **only** limited to alumina) when said periodic acid is used is the claimed range. **At most**, the declaration establishes prior invention for the claimed range of periodic acid when the abrasive is **alumina** and is present in an amount of **2 wt. %**. Although other amounts for the alumina abrasive are shown (i.e. 4% and 6%), these amounts are only shown to be used with a periodic acid content of only 0.1 moles/kg (see items 14, 18 and 25 of the declaration). In other words, for alumina abrasive contents of 4% and 6%, the declaration, **at most**, establishes prior invention for **only** a periodic acid content of 0.1 moles/kg. In view of this, the declaration does **not** show reduction to practice of the **entire** ranges being claimed, as well as any and all abrasive types. In addition, a 131 declaration can not be used to antedate a reference if the reference **claims** an invention that is not patentably distinct. As can be seen from Shemo et al., at least, the **claims** are directed to a composition that comprises an abrasive and periodic acid, thus a 131 declaration can not be used to overcome the reference.

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

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"A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968)". In addition, "A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976)".

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548.

Evidence of unexpected results must be commensurate in scope with the subject matter claimed. *In re Linder* 173 USPQ 356.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael A Marcheschi

MICHAEL MARCHESCHI  
PRIMARY EXAMINER